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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/069,559	02/20/2002	Ronald Raymond Riso	GRP-0012	3254

23413 7590 03/03/2004

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EXAMINER

MARMOR II, CHARLES ALAN

ART UNIT	PAPER NUMBER
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3736

DATE MAILED: 03/03/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/069,559

Applicant(s)

RISO, RONALD RAYMOND

Examiner

Charles A. Marmor, II

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-6, 10, 12-17 and 19-21 is/are rejected.
- 7) ☒ Claim(s) 7-9, 11, 18 and 22 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

1. This Office Action is responsive to the Preliminary Amendments filed June 26, 2002 and February 20, 2002. The Examiner acknowledges the amendments to claims 1-22. Claims 1-22 are currently pending.

Claim Objections

2. Claim 2 is objected to because of the following informalities: in line 2, "is/are" apparently should read --are--. Appropriate correction is required.
3. Claim 6 is objected to because of the following informalities: in line 1, "of" apparently should read --for--. Appropriate correction is required.
4. Claim 8 is objected to because of the following informalities:
 - a. In lines 1-2, "an artificial arm and/or had" apparently should read --at least one of an artificial arm and hand--.
 - b. In line 2, --dedicated-- apparently should be inserted before "electrodes".Appropriate correction is required.
5. Claim 9 is objected to because of the following informalities:
 - a. In lines 1-2, "an artificial arm and/or had" apparently should read --at least one of an artificial arm and hand--.

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b. In line 2, --sets of dedicated-- apparently should be inserted before “electrodes”.

Appropriate correction is required.

6. Claim 10 is objected to because of the following informalities: in line 2, --sets of-- apparently should be inserted before “dedicated”. Appropriate correction is required.

7. Claim 12 is objected to because of the following informalities: in line 2, a comma apparently should be inserted following “limbs”. Appropriate correction is required.

8. Claim 13 is objected to because of the following informalities:

a. In line 2, “is/are” apparently should read --are--.

b. In line 3, “placing” apparently should read --placement--.

Appropriate correction is required.

9. Claim 14 is objected to because of the following informalities: in line 2, “is/are” apparently should read --are--. Appropriate correction is required.

10. Claim 16 is objected to because of the following informalities: in line 2, “artificial limb(s)” apparently should read --one or more artificial limbs--. Appropriate correction is required.

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11. Claim 17 is objected to because of the following informalities: in line 2, "artificial limb(s)" apparently should read --one or more artificial limbs--. Appropriate correction is required.

12. Claim 18 is objected to because of the following informalities: in line 2, --adapted to be-- apparently should be inserted before "placed" and "functional" apparently should read --functionally--. Appropriate correction is required.

13. Claim 19 is objected to because of the following informalities:

a. In lines 1-2, "an artificial arm and/or had" apparently should read --at least one of an artificial arm and hand--.

b. In line 2, "is/are" apparently should be read --are adapted to be--.

Appropriate correction is required.

14. Claim 20 is objected to because of the following informalities:

a. In lines 1-2, "an artificial arm and/or had" apparently should read --at least one of an artificial arm and hand--.

b. In line 2, "is/are" apparently should be read --are adapted to be--.

Appropriate correction is required.

15. Claim 21 is objected to because of the following informalities:

a. In line 2, --adapted to be--apparently should be inserted before "placed".

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b. In line 3, "is/are" apparently should read --are adapted to be--.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

16. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

17. Claims 19 and 20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 19 and 20 recite the limitation "said prostheses" in line 1. There is insufficient antecedent basis for this limitation in the claim. In line 1 of the claims, "prostheses" apparently should read --one or more artificial limbs--.

Claim Rejections - 35 USC § 102

18. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

19. Claims 1, 5, 6, 12, 16 and 17 are rejected under 35 U.S.C. 102(b) as being anticipated by Hudgins ('780). Hudgins teaches a method and apparatus for controlling a prosthesis where electromyographic (EMG) signals received by at least one set of electrodes (col. 2, lines 12-15) dedicated to a electromyographic (EMG) signal source are used to generate control signals for at

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least one artificial limb. The electromyographic (EMG) signals are processed by a signal processing means utilizing a pattern recognition method and the control signals are generated using an artificial neural network.

20. Claims 1-3 and 12-14 are rejected under 35 U.S.C. 102(b) as being anticipated by Graupe ('141). Graupe teaches a method and apparatus for controlling a prosthesis where electromyographic (EMG) signals received by at least one set of electrodes dedicated to a electromyographic (EMG) signal source are used to generate control signals for at least one artificial limb. The sets of electrodes are preferably "surface electrodes" but can alternatively be subcutaneously placed needle electrodes or internal electrodes implanted in a muscle.

21. Claims 1, 4, 10, 12, 15 and 21 are rejected under 35 U.S.C. 102(b) as being anticipated by Maloney ('476). Maloney teaches a method and apparatus for controlling a prosthesis where electromyographic (EMG) signals received by at least one set of electrodes dedicated to a electromyographic (EMG) signal source are used to generate control signals for at least one artificial limb. The electromyographic (EMG) signals are transmitted from the sets of electrodes to signal processing means by wireless transmission. The dedicated electrodes are placed in relation to different parts of the same muscle.

Allowable Subject Matter

22. Claims 7-9, 11, 18 and 22 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

23. Claims 19 and 20 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

24. The following is a statement of reasons for the indication of allowable subject matter:

Regarding claims 7 and 18, no prior art of record teach or fairly suggest a method or apparatus, as claimed by Applicant, where four or more sets of dedicated electrodes are placed on distinct muscles or functionally distinct muscle compartments.

Regarding claims 8 and 19, no prior art of record teach or fairly suggest a method or apparatus, as claimed by Applicant, where sets of electrodes are placed in relation to at least the Flexor Digitorum, the Extensor Digitorum, the Flexor Pollicis Longus and the Extensor Pollicis Longus.

Regarding claims 9 and 20, no prior art of record teach or fairly suggest a method or apparatus, as claimed by Applicant, where sets of electrodes are placed in relation to at least the Flexor Digitorum, the Extensor Digitorum, the Flexor Pollicis Longus, the Extensor Pollicis Longus, the Pronator Teres, the Supinator, the Flexor Carpi Radialis and the Extensor Carpi Radialis.

Regarding claims 11 and 22, no prior art of record teach or fairly suggest a method or apparatus, as claimed by Applicant, where sets of electroneurographic signals from ENG electrodes are used in addition to the EMG signals for generating the prosthesis control signals.

Conclusion

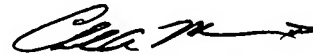
25. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Graupe ('860) teaches a system and method for multifunctional control of upper limb prostheses via EMG signal identification. Kovacs ('495) teaches a microelectronic interface for controlling a prosthesis using neurological signals. Smits ('269) teaches a method and apparatus for switching degrees of freedom in a prosthetic limb. Ferry et al. ('479) teach a method of evolving classifier programs for signal processing and control. Maloney et al. ('394) teach apparatus and methods for detecting and processing EMG signals. Abboudi et al. ('062) teach a biomimetic controller for a multi-finger prosthesis.

26. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Charles A. Marmor, II whose telephone number is (703) 305-3521. The examiner can normally be reached on M-TH (7:00-5:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mary Beth Jones can be reached on (703) 308-3400. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Charles A. Marmor, II
Primary Examiner
Art Unit 3736

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February 26, 2004